

## Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

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"3 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 230 V AC input, 9 A output current, and adjustable overload shutdown.

### Product Features

- ✓ 22.5 mm wide
- ✓ Space saving
- ✓ Long service life
- ✓ Reduction in wiring
- ✓ 3-phase loop bridges
- ✓ Bimetal function can be set up to 9 A



### Key commercial data

|                                      |           |
|--------------------------------------|-----------|
| Packing unit                         | 1 pc      |
| Weight per Piece (excluding packing) | 280.0 GRM |
| Custom tariff number                 | 85371099  |
| Country of origin                    | Germany   |

### Technical data

#### Input data

|                                       |                     |
|---------------------------------------|---------------------|
| Input name                            | Device supply       |
| Rated control supply voltage $U_s$    | 230 V AC (50/60 Hz) |
| Voltage range with reference to $U_s$ | 0.4 ... 1.1         |
| Rated control supply current $I_s$    | 4 mA                |
| Protective circuit                    | Surge protection    |
| Typical response time                 | < 35 ms             |
| Typical turn-off time                 | < 80 ms             |
| Operating voltage display             | Green LED           |

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## Technical data

### Input data

|                                         |                          |
|-----------------------------------------|--------------------------|
| Status display                          | Yellow LED               |
| Indication                              | Red LED                  |
| Input name                              | Control input right/left |
| Rated actuating voltage $U_C$           | 230 V AC                 |
| Voltage range with reference to $U_C$   | 0.4 ... 1.1              |
| Rated actuating current $I_C$           | 7 mA                     |
| Switching threshold "0" signal, voltage | 44 V AC                  |
| Switching threshold "1" signal voltage  | 85 V AC                  |

### Output data load output

|                                   |                               |
|-----------------------------------|-------------------------------|
| Nominal output voltage            | 500 V AC                      |
| Nominal output voltage range      | 42 V AC ... 550 V AC          |
| Load current                      | max. 9 A (see derating curve) |
| Min. load current                 | 1.5 A                         |
| Rated operating current at AC-51  | 9 A                           |
| Rated operating current at AC-53a | 6.5 A                         |
| Leakage current                   | 0 mA                          |
| Residual voltage                  | < 0.5 V                       |
| Surge current                     | 100 A (t = 10 ms)             |
| Protective circuit                | Surge protection              |

### Output data reply output

|                                       |                                                                  |
|---------------------------------------|------------------------------------------------------------------|
| Note                                  | Confirmation 01: floating change-over contact, signal contact    |
| Contact type                          | 1 PDT                                                            |
| Contact material                      | AgSnO <sub>2</sub> , hard gold-plated                            |
| Maximum switching voltage             | 30 V AC                                                          |
|                                       | 36 V DC                                                          |
| Minimum switching voltage             | 100 mV AC/DC (at 10 mA)                                          |
| Min. switching current                | 1 mA (at 24 V)                                                   |
| Maximum inrush current                | 50 mA                                                            |
| Limiting continuous current           | 50 mA                                                            |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC)                                               |
| Note                                  | the following values are applicable if a gold layer is destroyed |
| Maximum switching voltage             | 250 V AC/DC                                                      |
| Minimum switching voltage             | 5 V (at 100 mA)                                                  |
| Min. switching current                | 10 mA (at 12 V)                                                  |
| Limiting continuous current           | 6 A                                                              |
| Interrupting rating (ohmic load) max. | 140 W (at 24 V DC)                                               |

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## Technical data

### Output data reply output

|                                               |                        |
|-----------------------------------------------|------------------------|
|                                               | 20 W (at 48 V DC)      |
|                                               | 18 W (at 60 V DC)      |
|                                               | 23 W (at 110 V DC)     |
|                                               | 40 W (at 220 V DC)     |
|                                               | 1500 VA (for 250 V AC) |
| Switching capacity according to IEC 60947-5-1 | 2 A (at 24 V, DC13)    |
|                                               | 0.2 A (at 110 V, DC13) |
|                                               | 0.1 A (at 220 V, DC13) |
|                                               | 3 A (at 24 V, AC15)    |
|                                               | 3 A (at 120 V, AC15)   |
|                                               | 3 A (at 230 V, AC15)   |

### Output data, signaling contact

|               |                                                   |
|---------------|---------------------------------------------------|
| Measuring via | Current transformer for line current on L1 and L3 |
|---------------|---------------------------------------------------|

### Connection data

|                                        |                      |
|----------------------------------------|----------------------|
| Connection method                      | Screw connection     |
| Conductor cross section solid min.     | 0.14 mm <sup>2</sup> |
| Conductor cross section solid max.     | 2.5 mm <sup>2</sup>  |
| Conductor cross section stranded min.  | 0.14 mm <sup>2</sup> |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup>  |
| Conductor cross section AWG/kcmil min. | 26                   |
| Conductor cross section AWG/kcmil max  | 14                   |

### General

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| Test voltage input/output | 4 kV <sub>rms</sub>                                   |
| Mounting position         | Vertical (horizontal DIN rail)                        |
| Assembly instructions     | Can be aligned with spacing = 20 mm                   |
| Operating mode            | 100% operating factor                                 |
| Designation               | Air and creepage distances between the power circuits |
| Standards/regulations     | DIN EN 50178                                          |
| Insulation                | sichere Trennung                                      |
| Pollution degree          | 2                                                     |
| Surge voltage category    | III                                                   |
| Designation               | Standards/regulations                                 |
| Standards/regulations     | EN 60947                                              |

### Dimensions

|       |         |
|-------|---------|
| Width | 22.5 mm |
|-------|---------|

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## Technical data

### Dimensions

|        |          |
|--------|----------|
| Height | 99 mm    |
| Depth  | 114.5 mm |

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -25 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Degree of protection                    | IP20             |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27371102 |
| eCl@ss 4.1 | 27371102 |
| eCl@ss 5.0 | 27371601 |
| eCl@ss 5.1 | 27371601 |
| eCl@ss 6.0 | 27371601 |
| eCl@ss 7.0 | 27371601 |
| eCl@ss 8.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000066 |
| ETIM 3.0 | EC000066 |
| ETIM 4.0 | EC000066 |
| ETIM 5.0 | EC000066 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211915 |
| UNSPSC 7.0901 | 39121514 |
| UNSPSC 11     | 39121514 |
| UNSPSC 12.01  | 39121514 |
| UNSPSC 13.2   | 39121514 |

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / IECEx CB Scheme / UL Listed / cUL Listed / IECEx CB Scheme / cUL Listed / cULus Listed / cULus Listed / cULus Listed /  
null / null / null / null

# Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

## Approvals

Ex Approvals

Approvals submitted

### Approval details

|                                                                                                     |
|-----------------------------------------------------------------------------------------------------|
| UL Listed          |
| cUL Listed         |
| IECEE CB Scheme  |
| UL Listed        |
| cUL Listed       |
| IECEE CB Scheme  |
| cUL Listed       |
| cULus Listed     |

## Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

### Approvals

cULus Listed



cULus Listed



### Accessories

#### Accessories

#### Loop bridge

Jumper - BRIDGE- 2 - 2900746



3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

Jumper - BRIDGE- 3 - 2900747



3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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### Accessories

#### Jumper - BRIDGE- 4 - 2900748



3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE- 5 - 2900749



3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE- 6 - 2900750



3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE- 7 - 2900751



3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE- 8 - 2900752



3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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## Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

### Accessories

#### Jumper - BRIDGE- 9 - 2900753



3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE-10 - 2900754



3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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#### Jumper - BRIDGE- 2-3M - 2901543



3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 3-3M - 2901656



3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 4-3M - 2901659



3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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## Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

### Accessories

#### Jumper - BRIDGE- 5-3M - 2901545



3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 6-3M - 2901697



3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 7-3M - 2901698



3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 8-3M - 2901700



3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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#### Jumper - BRIDGE- 9-3M - 2901701



3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

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# Hybrid motor starter - ELR H5-I-SC-230AC/500AC-9 - 2900578

## Accessories

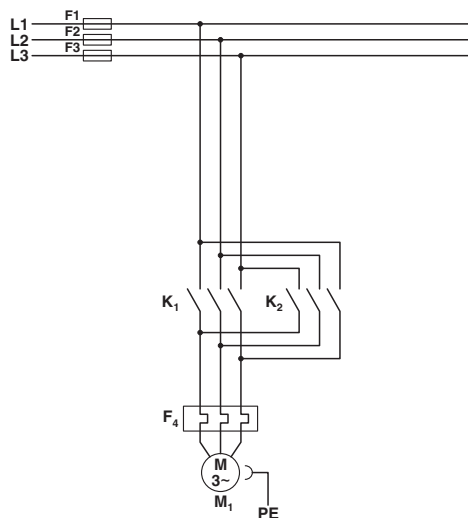
Jumper - BRIDGE-10-3M - 2901702



3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m, with ferrules included.

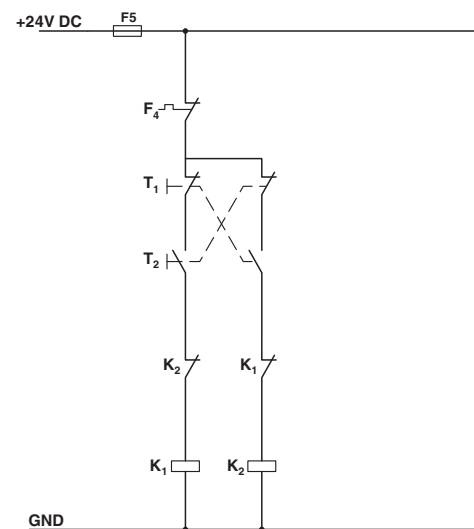
## Drawings

Circuit diagram



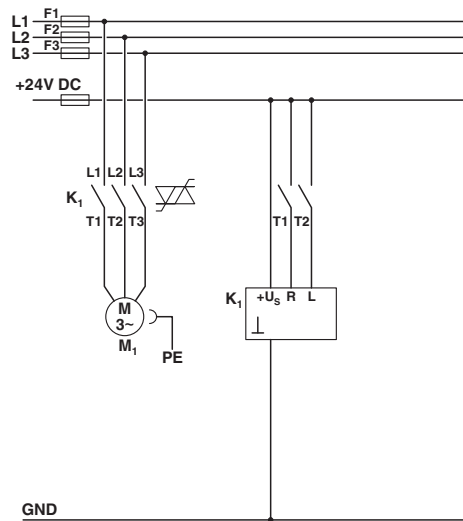
Conventional structure  
Main current path contactor  
K1 = Left contactor  
K2 = Right contactor  
F4 = Motor protection relay

Circuit diagram



Conventional structure  
Control current path contactor  
K1 = Left contactor  
K2 = Right contactor  
T1 = Left, T2 = Right  
F4 = Motor protection relay

### Circuit diagram



T1 = Right, T2 = Left